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Research Article

COMPARATIVE STUDY BETWEEN INSERTIONS OF POSTOPERATIVE DRAIN VERSUS NO DRAIN AFTER TOTAL THYROIDECTOMY

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Abstract:

Objective: To contrast complete thyroidectomy and inclusion of post-usable channel versus no channel regarding level of post-employable torment, length of clinic remains and post-usable hematoma, seroma and wound disease.

Study Design: Randomized controlled clinical preliminary examination.

Place and Duration of Study: This examination was led at the Department of General Surgery, Mayo Hospital Lahore from June 2018 to June 2020.

Materials and Methods: After taking authorization from emergency clinic moral board, a sum of 62 patients were incorporated, who were going through complete thyroidectomy for considerate multinodular goiter conceded in Department of Surgery.

Results: Mean period of patients was 39.90 ± 14.13 years. Male patients were 54.8% while females were 45.2%. The score of torment and term of medical clinic remain was measurably high in the channel bunch in contrast with the no channel gathering. After T-test and Chi-square test, there was no huge affiliation found in the two gatherings as far as emergency clinic remain or Post-usable agony with respect to impact modifiers like age or sexual orientation.

Conclusion: In post-worked instances of thyroid medical procedure where channels were not set, were related with brief span of clinic remain and less post-usable torment. So, the aftereffects of this investigation don't uphold the standard addition of channel after thyroid medical procedure.

Key Words: Postoperative thyroid complications, Total Thyroidectomy, Post thyroidectomy drain.

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INTRODUCTION:

Among all the activities of general a medical procedure, thyroidectomy is a normally performed tasks. Thyroid is an exceptionally vascular organ, having different slim walled vessels. This is the explanation that thyroidectomy is related with preoperative and postoperative draining confusions. Postoperative discharge in a shut space prompts pressure of the aviation route making respiratory sadness and afterward driving deadly intricacies. To recognize the early event of postoperative draining numerous specialists, want to embed a drain. Then again, there are contentions that postoperative draining is an uncommon confusion of thyroidectomy. [1]

Albeit postoperative draining can prompt lethal intricacies in thyroid medical procedure yet it is accounted for in just 0.3–1 % of thyroid medical procedures. Channels are set to demonstrate early draining inconvenience in postoperative time of thyroid medical procedure yet ordinarily these channels are hindered with coagulated blood and give a bogus impression of no postoperative dying. Site of exit of a channel is normally around the collar bone of the patient, which is a profoundly cosmetically delicate region, and this injury of channel leaves an appalling scar here. Likewise depletes are partners with patient's nervousness and now and then are additionally monetary weight for the patient. [2]

Lately, the quantity of the multitude of malignancies are expanding worldwide and thyroid carcinomas are about 1.7% of the multitude of malignancies. Because of this ascent of thyroid malignancies, thyroidectomies are additionally increasing. [3] With the advancement of careful strategies, by and large occurrence of postoperative complexities is decreased in instances of thyroidectomies yet there are cases which are getting postoperative confusions, including drain (0.3–6.5%), haematoma development (1–%), intermittent laryngeal nerve wounds (0.5–4.4%) [4] and hypocalcaemia (3.1–11%) [5]. As indicated by numerous specialist's addition of a channel in postoperative instances of thyroidectomy diminishes dead space which helps in prevention of seroma arrangement and furthermore helps in early discovery of draining complication. [6]

Numerous patients going through thyroidectomy have draining issues, in these cases channels are exceptionally valuable. In any case, addition of postoperative channels have terrible effect on patients and causes scar formation [7], expanded pain [8], high disease rate [9] and longer span of emergency clinic stay [10].As thyroidectomy is a typical surgery and

numerous investigations were done to identify both the need just as the intricacies of postoperative channel situation, however in spite of this there is still no organized development of rules or suggestions; so climate to put a channel or not postoperatively relies on the specialist's very own insight and choice. [11]

MATERIALS AND METHODS:

A total of 62 patients undergoing surgery for benign multinodular goiter admitted in **CMH, Muzaffarabad**, were selected for the study. Permission from hospital ethical review committee was taken over. Written informed consent was taken from all the patients. Patients were divided into 2 equal groups randomly by lottery method. Each group having 31 patients. All the patients were diagnosed by detailed history, thorough clinical examination, ultrasound neck, FNAC of thyroid and laboratory investigations including thyroid function tests. Patients diagnosed as being multinodular goiter and with normal thyroid function tests (euthyroid) were included in the study.

In Group A patients, Redivac suction drain of size 14 F was placed after total thyroidectomy beneath the deep cervical fascia. Drain output was measured after every 6 hours and drain was removed when the output was not increasing in a 6-hour period. While in group B patients, drain was not placed and the wound was closed by continuous subcuticular sutures. All the patients were followed postoperatively for severity of pain, duration of hospital stay and other post-operative complications like hematoma formation, seroma formation and wound infection. Patients were taught VAS(visual analog score) for pain and a record of pain was made on 1st postoperative day and then on 7th post-operative day. Hospital stay and postoperative complications were recorded. Post-operatively patients were followed on 1st, 7th and 14th postoperative days for development of hematoma formation, seroma formation and wound infection. Data in both the groups were recorded on a predesigned proforma. All patients were given due respect and their comfort was considered during the study.

Data was analyzed by SPSS version 20. Mean and SD were calculated for quantitative variables including age, pain as per VAS and hospital stay. Frequency and percentage were computed for qualitative variables like gender and postoperative complications including hematoma formation, seroma formation and woundinfection. Data was stratified for age and gender. Post- stratification independent sample t-test was used to compare mean postoperative pain and hospital stay between the two groups. Chi square test

will be used to analyze postoperative complications between the two groups. P-value ≤ 0.05 was taken as significant.

RESULTS:

Least age was 15 years and most extreme was 60 years with mean and standard deviation of 39.90 ± 14.13 years. The base postoperative agony was 3 and greatest was 6 with mean and standard deviation of postoperative torment was 4.5 ± 1.13 . Least span of emergency clinic remain was 1 day, and greatest length was 4 days with mean and standard deviation of 2.53 ± 0.99 days.

Guys were 34/62 (54.8%) while females were 28/62 (45.2%). Hematoma development was available in 2/62 (3.2%) patients while it was missing in 60/62 (96.8%) patients. Seroma arrangement was available

in 6/62 (19.7%) patients while it was missing in 56/62 (90.3%) patients. Wound disease was available in 2/62 (3.2%) patients while it was missing in 60/62 (96.8%) patients.

Autonomous T-test was applied after separation old enough, it was discovered that in the two gatherings old enough (< 40 years and > 40 years) p-values were 0.208 and 0.103 separately. Thusly, no huge affiliation was found in the two gatherings and clinic stay with respect to the period of patients. By the separation old enough, it was discovered that in the two gatherings old enough (< 40 years and > 40 years) the mean Post-employable agony was not huge in the two gatherings. Autonomous T-test was applied, and it was discovered that there were no critical contrasts in gatherings and medical clinic remain, post-employable torment with respect to male and female patients.

Table No.1: Descriptive statistics

	Minimu m	Maximu m	Mean	Std. Deviation
Age	15	60	39.90	14.13
Postoperative Pain	3	6	4.5	1.13
Hospital stay	1	4	2.53	0.99

Table No.2: Hematoma formation

Hematoma formation	Frequenc y	Percent
Present	2	3.2
Absent	60	96.8
Total	62	100.0

Table No.3: Seroma formation

Seroma Formation	Frequenc y	Percent
Present	6	19.7
Absent	56	90.3
Total	62	100.0

Chi-square test was applied to see impact in the two gatherings old enough (< 40 years and > 40 years) and there was no critical relationship in the two gatherings and hematoma arrangement. There was no huge relationship in the two gatherings (inclusion with channel and without channel) between hematoma arrangement and sexual orientation. Chi-square Test was applied to see the impact in the two gatherings old enough (< 40 years and > 40 years) and there was no huge affiliation found in the two gatherings (With channel or without channel) and Seroma development

as indicated by the period of patients. There was no huge relationship between the two gatherings (p-esteem more noteworthy than 0.05). At the point when Chi-square Test was applied to see impact in the two gatherings old enough (< 40 years and > 40 years), there was no huge relationship between the two gatherings and Seroma development. At the point when Chi-square Test was applied to see impact in the two gatherings of sexual orientation, no critical affiliation was between the two gatherings and Seroma development.

Table No.4: Wound infection

Wound infection	Frequenc y	Percent
Present	2	3.2
Absent	60	96.8
Total	62	100.0

DISCUSSION:

The goals of the current examination were to contrast absolute thyroidectomy and addition of post-employable channel versus no channel as far as seriousness of post-usable torment, span of medical clinic remain and recurrence of post-usable entanglements. In such manner, the current overview was directed from the patients visiting at branch of General Surgery. An example of 62 patients was chosen by utilizing non-likelihood back-to-back inspecting method.

From 62 patients, the base age was 15 years and greatest were 60 years with mean and standard deviation of 39.90 ± 14.13 years. The base postoperative torment was 3 and greatest were 6 with mean and standard deviation of 4.5 ± 1.13 . The base length of emergency clinic remain was 1 day, and most extreme was 4 days with mean and standard deviation of 2.53 ± 0.99 days.

Guys were 34/62 (54.8%) while females were 28/62 (45.2%). Hematoma arrangement was available in 2/62 (3.2%) patients while it was missing in 60/62 (96.8%) patients. Seroma arrangement was available in 6/62 (19.7%) patients while it was missing in 56/62 (90.3%) patients. Wound contamination was available in 2/62 (3.2%) patients while it was missing in 60/62 (96.8%) patients.

Autonomous T-test was applied after definition old enough, it was discovered that in the two gatherings old enough (< 40 years and > 40 years) p-values were 0.208 and 0.103 individually. Along these lines, no huge affiliation was found in the two gatherings and clinic stay with respect to the period of patients. By the delineation old enough, it was discovered that in the two gatherings old enough (< 40 years and > 40 years), the mean Post-usable torment was not critical in the two gatherings (for example inclusion with channel and without channel). Autonomous T-test was applied, and it was discovered that there were no critical contrasts in the two gatherings and emergency clinic stay with respect to male and female patients. Free T-test was applied, and it was found that there were no critical contrasts in the two gatherings and Post-usable torment with respect to male and female patients. Chi-

square Test was applied to see impact in the two gatherings old enough (< 40 years and > 40 years) and there was no huge relationship in the two gatherings and hematoma development. There was no huge relationship in the two gatherings (inclusion with channel and without channel) between hematoma arrangement and sexual orientation. Chi-square Test was applied to see the impact in the two gatherings old enough (< 40 years and > 40 years) and there was no critical affiliation found in the two gatherings (With channel or without channel) and Seroma arrangement with respect to the time of patients. There was no critical affiliation was found between the two gatherings and Seroma arrangement concerning sex having p-esteem more prominent than 0.05. At the point when Chi-square Test was applied to see the impact in the two gatherings old enough (< 40 years and > 40 years) there was no critical affiliation found between the two gatherings and Seroma arrangement. At the point when Chi-square Test was applied to see the impact in the two gatherings of sex, no huge affiliation was found between the two gatherings and Seroma arrangement.

Tian J et al directed a meta-investigation in which 14 examinations containing if 1927 patients were incorporated. This meta-examination was led to discover the recurrence of postoperative difficulties of thyroidectomy, for example, sroma or hematoma arrangement, wound site contaminations, hypoparathyroidism, injury to repetitive laryngeal nerve and span of clinic remain. The consequences of that meta-examination indicated that the patients in which channel was embedded, had more recurrence of postoperative contamination than when contrasted with the patients where no channel was embedded (pooled OR = 2.94, 95 % CI 1.27–6.85, P = 0.012). If there should arise an occurrence of the emergency clinic remain, it was drawn out in patients where channel was embedded in contrast with the patients having no channel (pooled distinction in mean = 1.16, 95 % CI 0.72–1.59, P < 0.001). Because of this meta-examination there was no measurably huge contrasts between the gatherings as far as seroma or hematoma development, hypoparathyroidism, injury to repetitive laryngeal nerve. It was finished up from the investigation that there is no critical bit of leeway of

postoperative channel inclusion in thyroidectomies. Yet, then again, this Study additionally reasoned that recurrence of contamination and term of medical clinic remain was higher in patients where channel was embedded.[12]

In a past report the postoperative agony score of 24 hours had uncovered finding of a critical higher torment score in the gathering that had position of a channel. The base medical clinic remain in channel bunch was 4 days and if there should arise an occurrence of no channel 1 day. In patients where channel was embedded mean term of clinic remain was $3.63 \text{ days} \pm 0.707 \text{ SD}$ and $1.19 \text{ days} \pm 2.145 \text{ SD}$ in the gathering that had no postoperative channel (p esteem <0.05). [13]

Comparative outcomes were found in this current investigation for example emergency clinic remain in channel bunch was at any rate 3 days and in the event of no channel 1 day and mean length of emergency clinic remain was 3.12 ± 0.60 in channel gathering and 3.42 ± 0.51 in the gathering that had no channel. With respect to difficulty there was no in general demonstrated measurable variety between the two gatherings. Dominant part of specialists embed channel after thyroidectomy to forestall seroma or hematoma assortment in the employable field.

Draining intricacy after thyroidectomy prompting hematoma development isn't consistent and ranges between 0.3–2.5%.²The length of clinic remain was discovered lesser in the patients without a channel and these discoveries were additionally revealed by other studies. [1]

Short emergency clinic stay is likewise prudent for our patients as dominant part of them are helpless patients having least assets, have a place with distant and they can't take long leave from work. To put it plainly, in all instances of thyroidectomy, channels are not generally needed. Alongside delayed emergency clinic remain, channels are a wellspring of contamination just as distress for the patient. Post-thyroidectomy draining possibilities are more with intermittent goiter, Graves' infection, retrosternal goiter and in patients taking anticoagulants. At the point when thyroid medical procedures are performed by fastidious specialists then the pace of major postoperative inconveniences is exceptionally low. As draining is a typical entanglement among all the difficulties of thyroidectomy, hence, specialists for the most part place channels after thyroid tasks to identify draining early. [14]

Then again, the addition of channels itself causes high pace of disease and delayed emergency clinic remain. Post usable draining generally happens in the initial 6 hours of the thyroid medical procedure, prompting the hematoma development and respiratory trouble, so patients should be held under close perception during this period and can be released on the following day. This training decreases term of clinic remain just as decrease in monetary burden.^{9,10}

CONCLUSION:

Absolute thyroidectomy, without inclusion of post-usable channel is in a way that is better than with channel as far as post-employable agony, emergency clinic stays and cost viability. There is no need of embeddings a channel in patients who don't have any danger factor. On the off chance that an enormous hematoma is framed, it tends to be suctioned by a needle. At last, the inclusion of a channel inclines a patient to contaminations just as increment quiet uneasiness, draws out the emergency clinic remain and increments monetary weight on patient.

REFERENCES:

1. Habsi AS, Al-Sulaimani AA, Taqi KM, Al-Qadhi HA. Comparison of Postoperative Drain Insertion versus No Drain Insertion in Thyroidectomies: Retrospective case-control study from the Sultan Qaboos University Hospital, Muscat, Oman. *Sultan Qaboos Uni Med J* 2016;16(4):e464.
2. Liu J, Sun W, Dong W, et al. Risk factors for post-thyroidectomy haemorrhage: a meta-analysis. *Eur J Endocrinol* 2017;176 (5): 591- 602.
3. Zhang X, Du W, Fang Q. Risk factors for postoperative haemorrhage after total thyroidectomy: clinical results based on 2,678 patients. *Sci Rep* 2017;7(1): 7075.
4. Serpell JW, Lee JC, Yeung MJ, Grodski S, Johnson W, Bailey M. Differential recurrent laryngeal nerve palsy rates after thyroidectomy. *Surg* 2014;156(5):1157-66.
5. Sanabria A, Rojas A, Arevalo J. Meta-analysis of routine calcium/vitamin D3 supplementation versus serum calcium level-based strategy to prevent postoperative hypocalcaemia after thyroidectomy. *Bri J Surg* 2019;106(9):1126-37.
6. Ramouz A, Rasihashemi SZ, Daghigh F, Faraji E, Rouhani S. Predisposing factors for seroma formation in patients undergoing thyroidectomy: Cross-sectional study. *Annals Med Surg* 2017; 23:8-12.
7. On HR, Lee SH, Lee YS, Chang HS, Park C, Roh MR. Evaluating hypertrophic thyroidectomy scar outcomes after treatment with triamcinolone

- injections and copper bromide laser therapy. *Lasers in Surg Med* 2015;47(6):479-84.
8. Smith RB, Coughlin A. Thyroidectomy hemostasis. *Otolaryngologic Clin North Am* 2016; 49(3):727-48.
 9. Myssiorek D, Ahmed Y, Parsikia A, Castaldi M, McNelis J. Factors predictive of the development of surgical site infection in thyroidectomy—An analysis of NSQIP database. *Int J Surg* 2018; 60:273-8.
 10. Mahalingam S, Singhal R, Mugilan S, Choudhury N. Improving the ward-based care of patients post- thyroidectomy. *Bri J Hospital Med* 2016; 77(11): 652-5.
 11. Fan C, Zhou X, Su G, Zhou Y, Su J, Luo M, Li H. Risk factors for neck hematoma requiring surgical re-intervention after thyroidectomy: a systematic review and meta-analysis. *BMC Surg* 2019; 19(1):98.
 12. Tian J, Li L, Liu P, Wang X. Comparison of drain versus no-drain thyroidectomy: a meta-analysis. *European Archives of Oto-Rhino-Laryngology*. 2017;274(1):567-77.
 13. Nawaz S, Naeem A. Thyroid surgery: drain versus no drain. *J Postgraduate Med Institute (Peshawar-Pakistan)* 2015;20;29(2).
 14. Alexiou K, Konstantinidou E, Papagoras D. The use of drains in thyroid surgery. *Hell Cheirourgike* 2015;87:97–100.